

Work Order ID 162471

Tuesday, June 06, 2017 4:57:34 PM

162471

Page 1

Item ID: D135-751-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/5/2017 Req'd Qty: 1.00 ***1*** Customer:

Reference:

Approvals: Process Plan: *DA* **DAS 21 9-89** Date: **20170607** Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D3507	Rev D								
DSI 9661	A								

100 Document Control 0.00
100 DOCUMENT CONTROL
DC Memo 0.10
Doc.Control -USB or Paperwork Photocopy bluefile & type labels per PPP D135-751-011 CHG002

DAS 28 9-89

SEP 05 2017

B162471

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER :									

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Start Date: 5/24/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 6/5/2017 Req'd Qty: 1.00 *1* Customer:
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Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Skidtubes	0.00							
120									
Skidtubes	Memo	1.09							
Skidtubes	1-Cut Aft end as per dwg D3507 2-Deburr ends 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 4-Locate DT8870 & Drill Ground wire hole on top of Tube. 6-Locate DT8870 with #30 cleco in Ground wire hole ,then Pilot Drill all X-Bolt holes using #30" drill.****DO NOT OPEN AFT CAP HOLES**** 7-Open crossbolt holes to 0.3125" (3 per side). Drill pilot holes for wearplates using Dt8868,Use DT8892 FOR REAR WEARPLATE HOLES. 8-Open six rear wearplate holes using DT8892.Open all wearplate holes to 0.297" 9-Open ground wire hole .297" section E-E 10-Open Aft & Fwd Cap holes using .208" drill. 11-Bore out aft end of tube as per Dwg D3507 & Detail "B". 12- Section G-G holes must be laid out manually, open to #30. 13-Deburr holes.								

BE 17-06-13**BE 17-06-14**DAG
38
2.00

JUN 15 2017

DQA: _____ Date: _____



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Misidentified ☐	Past Due ☐																																																																

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

Chemical Conversion Coat per QSI005 4.1

0.00

150

HandFinish

Memo

0.86

Hand Finishing

1	0	BR 17-06-19
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160

QC7-Inspect Chemical Conversion Coat

0.00

160

QC

Memo

0.10

Quality Control

1	0	JW 17-06-19
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

170

Skidtubes

Skidtubes

Skidtubes

Memo

0.87

1-Open X-Bolt holes to .375" (1 Places) & .500" (2 Places) as per Dwg D3507 and section G-G to .750" (2 places)

2-Counter Sink X-BOLT holes as per Dwg D3507

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3507 & QSI 015

A/R 241 Sike Flex Batch: m137526
Exp Date: 18-04-21
start time: _____
end time: _____

5-Weld x-bolt spacers as per Dwg D3507 and Detail C-C & D-D and G-G

A/R AL ROD Batch: m136658

6-Grind welds flush

7-Drill Rivet Holes as per Dwg D3507 Using Dt8871A&B

8-Deburr Rivet holes.

BE17-06-19**BE17-06-20**

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00				1			DAG 38 9.00 JUN 27 2017
185 *185* HandFinish Hand Finishing	Touch up alodine Memo RE-ALODINE ONLY	0.00 1.57				1		MGB 17/07/06	
187 *187* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00				1		Ø BE 17-07-07	

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3AC 00 00 00 00				Completed By	
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* Skidtubes	Skidtubes	0.00							
	Memo	0.94							
	1-Rivet D3506-1/-3 as per Dwg D3507.								
200 *200* QC	QC5- Inspect part completeness to step on W/O	0.00							
	Memo	0.02							
	Quality Control								
210 *210* HandFinish	Pressure Wash per QSI005 4.3	0.00							
	Memo	0.54							
	Hand Finishing								
	Touch-up alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								

Handwritten notes and stamps:
- Under 190: ***190***, Skidtubes, Memo, 1-Rivet D3506-1/-3 as per Dwg D3507.
- Under 200: ***200***, QC, Quality Control, QC5- Inspect part completeness to step on W/O, Memo, Touch-up alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.
- Under 210: ***210***, HandFinish, Hand Finishing, Pressure Wash per QSI005 4.3, Memo, Touch-up alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.
- Stamps: **DAS 38 9-89**, **JUL 07 2017**, **20170725**, **BEB**.

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220	Spray Painting per QSI005 4.2	0.00							
220									
SprayPaint	Memo	0.40							
Spray Painting	1- Apply Primer as per QSI 005 4.2.1.3.3 and dwg A/R Primer Batch: 137 195								
	2- Paint two coats of White paint as per QSI 005 4.2 and dwg A/R Paint Batch: 138 058								
230	QC14- Inspect Spray Paint	0.00							
230									
QC	Memo	0.10							
Quality Control									

STAR 9.30
FINISH 10.30
START 11.30
FINISH 12.30

2017 08 10

1x d Jll 13/07/22 **DAS 15 9-89**

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Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐								
		OTHER : ☐							

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162471

Page 8

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 6/5/2017 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID

Tool #

Plan

Accept
QtyReject
Qty

Reject Number

**Insp.
Stamp**

260

Assemble as per dwg

0.00

260

HandFinishing

1.36

HandFinish

Memo

Hand Finishing

1- Install Wearplate & Ground Wire inserts as per Dwg D3507.

1-Inspect for Foreign objects

2-Install Fwd & Aft caps as per Dwg D3507 And Detail "A" & "B"

A/R 241 Sika Flex Batch: M 132916
Exp Date: 18/03

3-Install Wearplates as per Dwg D3507.

Note:Install (1) Bolt and (1) washer on Ground Wire insert on top of tube

Do not Install Screws where indicated on Dwg(Note #6)

A/R 241 Sika Flex Batch: 0413794
Exp Date: 18/03

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o-ring lube batch: 1113547 =

5- Wing Walk as per Dwg D3507 and QSI 005 4.4

Batch: N°1137447

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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Setup Start *NS1*

Stop ***NS2***

Customer:

Run Start *NR1*

Stop *NR2*

**Insp.
Stamp**

DAS
38
9-89
AUG 24 2017

AUG 25 2017

DAS
27
9-89

DAS
28
9-89

SEP 05 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER :							

Work Order ID 162471

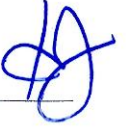
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162471

Page 10

Item ID: D135-751-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skidtube with Standard Wearplates Fits LH or RH
Start Date: 5/24/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/5/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
300 *300* Packaging Packaging	Identify as per dwg & Stock Location: _____ Packaging Memo Identify and pack for shipping as per PPP D135-751-011 Location: _____ PPP Rev: _____ fg072	0.00 0.00					DAS 27 9-89		
310 *310* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.10							17/9/8 

 **SEP 06 2017**

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Page 303

Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A06-06-21New Issue JLM
IPP Rev:B 06-12-18 As per Rev B JLM
IPP Rev:C 07-12-11 ECN 1036 as per revB DD
IPP Rev D 08.11.04 Added DT9431 to sequence 5 EC verf DD IPP Rev E
10.02.22 per pAR 09-043 EC verified by: DD IPP Rev:F 10.06.09
remove seq110 DD verf:EC IPP Rev G 10.09.17 added
D3507-1-bent EC verified by:DD IPP REV:H 13.12.11 ECN13-619/
CHG002 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-225	AELS8-1032-225	Purchased	No			260	Each	2,967.000	1	1			

AI S4-1032-225

Rivnut

**

24 17/07/22

Location	Loc Qty	Loc Code
CCK007	500	
M136579	500	
FG	25	
M134975	20	
M135998	5	
FP001	2442	
M135603	40	
M135920	38	
M135998	2353	Y1
M136265	11	

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130 AELS8-1032-130 Purchased No

260 Each 2,185.000 38 38

ALS7-1032-130 *X*

Rivnut

all done

ALS4-1032-130

Location

Loc Qty

Loc Code

FG	100	
M128649	50	M137820
M136048	50	
FP001	1999	
M128649	155	
M136579	1844	
ST556	86	
M136048	86	

x38

AN3C4A Purchased No

260 Each 820.0000 31 31

AN3C4A

Bolt

all 12/07/22

Location

Loc Qty

Loc Code

FG	20	
I22814	20	M137963
FP001	365	
M136450	23	
M136740	8	
M136986	20	
M137075	43	
M137164	2	
M137361	269	
OVER002	400	
M137507	150	
M137587	250	
ST350	35	
M135704	35	

x31

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

280

Each

820.0000

8

8

AN3C4A

Bolt

**

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

20

m138288

8

122814

20

AUG 25 2017

DAS
27
9-89

FP001

365

M136450

23

M136740

8

M136986

20

M137075

43

M137164

2

M137361

269

OVER002

400

M137507

150

M137587

250

ST350

35

M135704

35

AN3C5A

Purchased

No

260

Each

1,029.000

2

2

AN3C5A

Bolt

**

11/07/22

Location

Loc Qty

Loc Code

FG

5

M137963

Y2

122800

5

FP001

94

M136182

35

M136579

2

M137412

57

OVER002

800

M137361

800

ST350

130

M134676

1

M135442

129

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Shop Packet Print

Page 305

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

AN526C1032R10

Purchased

No

260

Each

33.0000

2

2

AN526C1032R10

Screw

**

all 12/07/22

Location

Loc Qty

Loc Code

FP001

33

m135133

33

x2

D2965

Manufactured

No

260

Each

35.0000

1

1

D2965

Cap

**

all 12/07/22

Location

Loc Qty

Loc Code

FP001

35

127852

35

x1

D2965-3

Manufactured

No

260

Each

68.0000

1

1

D2965-3

Cap

**

all 12/07/22

Location

Loc Qty

Loc Code

FP001

68

126369

68

x1

D3492-1

Manufactured

No

260

Each

120.0000

4

4

D3492-1

Plug

**

all 12/07/22

Location

Loc Qty

Loc Code

FP001

120

B164127

x4

158389

17

159298

103

Picklist Print

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Page 307

Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

D3492-3 Manufactured No

260 Each 184.0000 4 4

D3492-3

Plug

**

all 12/07/17

Location

Loc Qty

Loc Code

FP001

184

158378

4

159296

180

X2

D3492-7 Manufactured No

260 Each 65.0000 2 2

D3492-7

Plug

**

all 12/07/17

Location

Loc Qty

Loc Code

FP001

65

106110

65

X2

D3504-1 Manufactured No

170 Each 18.0000 2 2

D3504-1

Crossbolt Spacer

**

BE17-0621

Location

Loc Qty

Loc Code

LG001

18

153788

18

2

D3504-3 Manufactured No

170 Each 41.0000 1 1

D3504-3

Crossbolt Spacer

**

BE17-0621

Location

Loc Qty

Loc Code

LG001

41

105604

41

1

Picklist Print

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Page 308

Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

D3504-5

Manufactured No

170

Each

22.0000

2

2

D3504-5

Crossbolt Spacer

**

BE17-06-21

Location

Loc Qty

Loc Code

LG

1

131473

1

LG001

21

153745

21

2

D3505-1

Manufactured No

170

Each

3.0000

1

1

D3505-1

Web

**

BE17-06-19

Location

Loc Qty

Loc Code

LG002

3

142243

3

1

D3506-1

Manufactured No

190

Each

33.0000

4

4

D3506-1

Doubler

**

BE17-07-07

Location

Loc Qty

Loc Code

LG001

33

131475

4

153525

29

4

D3506-3

Manufactured No

190

Each

36.0000

2

2

D3506-3

Doubler

**

BE17-07-07

Location

Loc Qty

Loc Code

LG001

36

141165

7

131267

29

2

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

D3507-1-BENT

Manufactured No

120

Each

6.0000

1

1

D3507-1-BFNT

Skidtube Assembly EC135

**

BE 17-06-12

Location

Loc Qty

Loc Code

LG002

6

153822

2

154475

4

D3512-041

Manufactured No

280

Each

12.0000

2

2

D3512-041

Wearplate

**

DAS 6 9-89 AUG 31 2017 DAS 27 9-89

Location

Loc Qty

Loc Code

ST610

12

155744

4

161911

8

D4918-047

Manufactured No

260

Each

14.0000

1

1

D4918-047

Wearplate Aft

**

12/03/22

Location

Loc Qty

Loc Code

FP002

14

143787

3

160786

11

D4918-1

Manufactured No

260

Each

0.0000

1

1

D4918-1

Wearplate Fwd

**

B161994 (1x) 12/03/22

D4918-3

Manufactured No

260

Each

0.0000

1

1

D4918-3

Wearplate Center Fwd

**

B161898 (1x) 12/03/22

D4918-5

Manufactured No

260

Each

0.0000

1

1

D4918-5

Wearplate Center Aft

**

B162010 (1x) 12/03/22

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W3

Purchased

No

190

Each

333.0000

12

12

MS20601-AD4W3

**

B6 17-07-07

Rivet

Location

Loc Qty

Loc Code

LG001

73

m137075

13

m137459

60

ST308

260

m137361

60

m137587

200

12

NAS1149C0332R

Purchased

No

260

Each

4,145.000

33

33

NAS1149C0332R

**

12/02/22

WASHER

Location

Loc Qty

Loc Code

FP001

1438

m137381

1438

m137451

x33

GA

514

m133284

22

m136444

492

ST260a

2000

m135408

0

m136741

0

m137597

2000

ST266

193

m135908

184

m136741

9

Picklist Print

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Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

280

Each

4,145.000

8

8

NAS1149C0332R

**

WASHER

DAS
26
9-89

Location

Loc Qty

Loc Code

FP001

1438

m137381

1438

GA

514

m133284

22

m136444

492

ST260a

2000

m135408

0

m136741

0

m137597

2000

ST266

193

m135908

184

m136741

9

8

AUG 25 2017

DAS
27
9-89

NAS1611-007

Purchased

No

260

Each

296.0000

2

2

NAS1611-007

**

O-RING

Location

Loc Qty

Loc Code

FP001

296

103697

296

X2

Picklist Print

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10

Work Order ID: 162471

162471

Parent Item: D135-751-011

D135-751-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017

Required Date: 6/5/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

260

Each

251.0000

4

4

NAS1611-010

**

all 12/02/22

O-RING

Location

Loc Qty

Loc Code

FP001

251

M137963

x4

m134955

7

m135603

8

m136182

5

m136836

100

m137333

31

m137587

100

NAS1611-013

Purchased

No

260

Each

222.0000

4

4

NAS1611-013

**

all 12/02/22

O-Ring

Location

Loc Qty

Loc Code

FP001

222

M137963

x4

m137333

200

m137379

22

162 471

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D135-751 REV. C
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D135-751 REV. 2
REF. FAA STC: SR01709SE
REF. EASA STC: EASA.IM.R.S.01278

PURPOSE:

THE D135-751-043 WEARPLATE KIT AT CHG 002 CONTAINS WEARPLATES WITH AN IMPROVED WEAR PATTERN AND A COATING THAT ELIMINATES THE NEED FOR THE RUBBER GASKETS. THE D135-751-011 SKIDTUBE INSTALLATION AT CHG 002 AND D135-751-041 REPLACEMENT SKIDTUBE AT CHG 002 CONTAIN THE NEW WEARPLATES.

THE DSI 9661-011 WEARPLATE UPGRADE KIT IS AVAILABLE TO UPGRADE EXISTING D135-751-011 KITS AT CHG 001 WITH IMPROVED AFT WEARPLATES.

CHANGE:

FOR D135-751-011/-041/-043 KITS AT CHG 002, THE WEARPLATE INSTALLATION PROCEDURE OF ICA-D135-751 SECTION 32.3 IS REVISED AS FOLLOWS. IF INSTALLING THE DSI 9661-011 WEARPLATE UPGRADE KIT, THE PARTS SHOULD BE INSTALLED USING THE FOLLOWING INSTRUCTION.

32.3 WEARPLATE REPLACEMENT

IF REINSTALLING D3508-X WEARPLATES ON D135-751-011/-041 KITS AT CHG 001, THE WEARPLATES SHOULD BE INSTALLED WITH D3558-X GASKETS PER ICA-D135-751 REV. 2. FOR D135-751-011/-041/-043 KITS AT CHG 002, THE WEARPLATES SHOULD BE INSTALLED WITHOUT GASKETS, AS INDICATED BELOW. IF D4918-X WEARPLATES ARE BEING INSTALLED ON D135-751-011/-041 SKIDTUBES AT CHG 001, THEY SHOULD LIKEWISE BE INSTALLED WITHOUT GASKETS AS INDICATED BELOW.

- 32.3.1 REMOVE WEARPLATES AND GASKETS (IF PRESENT) BY REMOVING THE AN3C BOLTS THAT SECURE THEM TO THE BOTTOM OF THE SKIDTUBE.
- 32.3.2 CHECK FOR CORROSION AND MECHANICAL DAMAGE IN ACCORDANCE TO CHAPTER 5 AND REPAIR AS REQUIRED. REFINISH BOTTOM OF SKIDTUBE PER CHAPTER 5 OF ICA-D135-751.
- 32.3.3 INSTALL REPLACEMENT D4918-1/-3/-5/-047 WEARPLATES USING AN3C BOLTS AS APPLICABLE AS SHOWN IN FIGURE 1 OF THIS SERVICE INSTALLATION. INSTALL (QTY 2) D3512-041 WEARPLATES (ITEM 27) OVER FWD AND AFT CLAMPS AS SHOWN IN FIGURE 1 USING AN3C BOLTS AND AN960C10L WASHERS. TORQUE BOLTS 15-25 IN-LB (1.7-2.8 N-m). SEAL WEARPLATE INSERTS USING SIKAFLEX-241/-291 OR PROSEAL 890 MIL-S-8802 CLASS B2 SEALANT.

WEIGHT AND BALANCE:

USE THE FOLLOWING WEIGHT AND BALANCE INFORMATION FOR DART D135-751-011 SKIDTUBE INSTALLATION AT CHG 002.

INSTALLATION	WEIGHT	LATERAL		LONGITUDINAL	
		ARM	MOMENT	ARM	MOMENT
D135-751-011 CHG 002 Skidtube Installation	24.5 lb 11.2 kg	±39.4 in ±1.0 m	±966 in-lb ±11.2 m-kg	147.1 in 3.7 m	3604 in-lb 41.5 m-kg

A	NEW ISSUE	DW	13.08.21	
REV.	DESCRIPTION	BY	DATE	
DESIGN	DW	DART AEROSPACE USA, INC KENT, WA		
DRAWN	DW			
CHECKED	GP	DRAWING NO.	REV. A	
MFG. APPR.	N/A	DSI 9661	SHEET 1 OF 3	
APPROVED	MP	TITLE	SCALE	
DE APPR.	MP	REVISED WEARPLATE KIT	NTS	
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PARTS LIST:

THE PARTS LISTS IN SECTION 32.9 OF ICA-D135-751 (PAGE 35) AND SECTION 5.0 OF IIN-D135-751 (PAGE 11) ARE AMENDED AS FOLLOWS FOR D135-751-011 @ CHG 002 AND LATER.

32.9 PARTS LIST (ICA-D135-751)**5.0 PARTS LIST (IIN-D135-751)**

Item	QTY -011	QTY -041	QTY -043	PART NUMBER	DESCRIPTION
	X			D135-751-011	SKIDTUBE INSTALLATION
	1	X		D135-751-041	REPLACEMENT SKIDTUBE
			X	D135-751-043	WEARPLATE KIT

IS:

20A	1		1	D4918-1	WEARPLATE (REPLACES D3508-1)
21A	1		1	D4918-3	WEARPLATE (REPLACES D3508-3)
22A	1		1	D4918-5	WEARPLATE (REPLACES D3508-5)
23A	1		1	D4918-047	WEARPLATE (REPLACES D3508-7)
27	2		2	D3512-041	WEARPLATE (REPLACES D3512-1)

WAS:

20A	1		1	D3508-1	WEARPLATE
20B	1		1	D3558-1	GASKET
21A	1		1	D3508-3	WEARPLATE
21B	1		1	D3558-3	GASKET
22A	1		1	D3508-5	WEARPLATE
22B	1		1	D3558-5	GASKET
23A	1		1	D3508-7	WEARPLATE
23B	1		1	D3558-7	GASKET
27	2		2	D3512-1	WEARPLATE

THE PARTS LIST FOR THE DSI 9661-011 KIT IS AS FOLLOWS:

QTY -011	PART NUMBER	DESCRIPTION
X	DSI 9661-011	WEARPLATE UPGRADE KIT
1	D4918-047	WEARPLATE
2	D3512-041	WEARPLATE

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CHECKED	<i>UP</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>N/A</i>	DSI 9661	SHEET 2 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	REVISED WEARPLATE KIT	NTS
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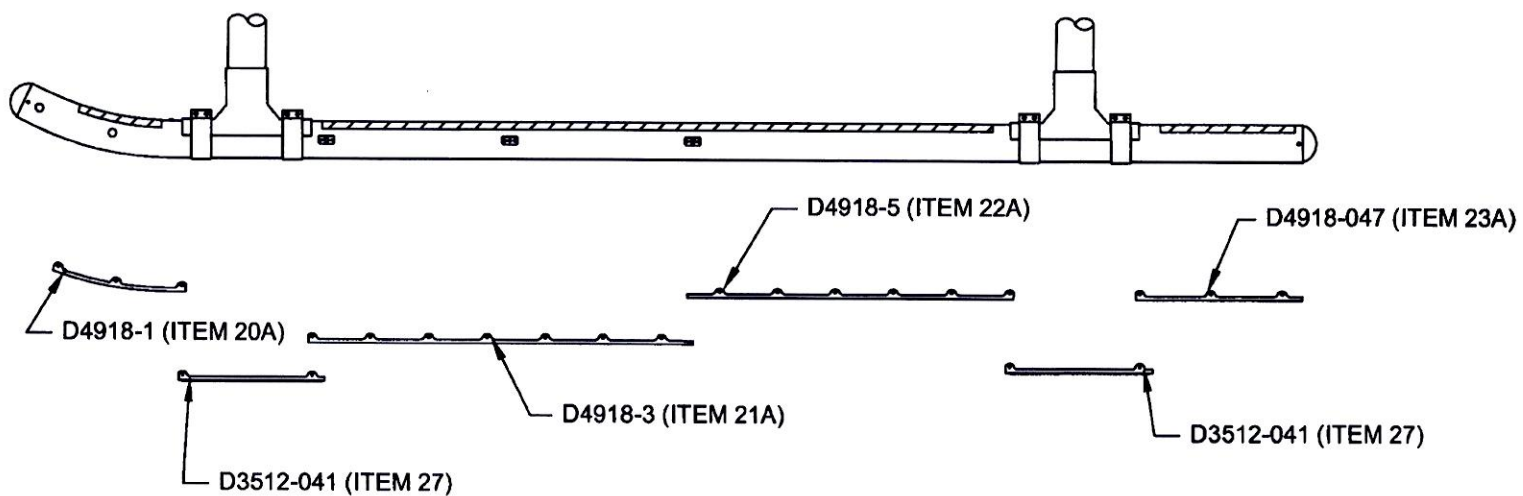


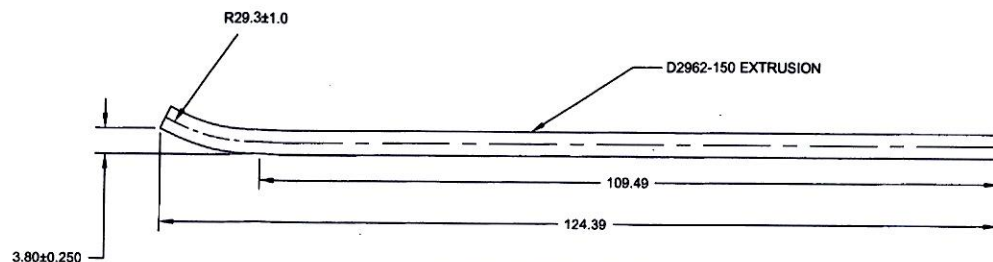
FIGURE 1: WEARPLATE INSTALLATION

DESIGN		DW	DART AEROSPACE USA, INC KENT, WA	
DRAWN		DW		
CHECKED		<i>Q</i>		
MFG. APPR.		<i>N/A</i>		
APPROVED		<i>APR</i>		
DE APPR.		<i>APR</i>	DRAWING NO. DSI 9661 REV. A SHEET 3 OF 3 SCALE NTS	
TITLE				
REVISED WEARPLATE KIT				
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13.08.21				

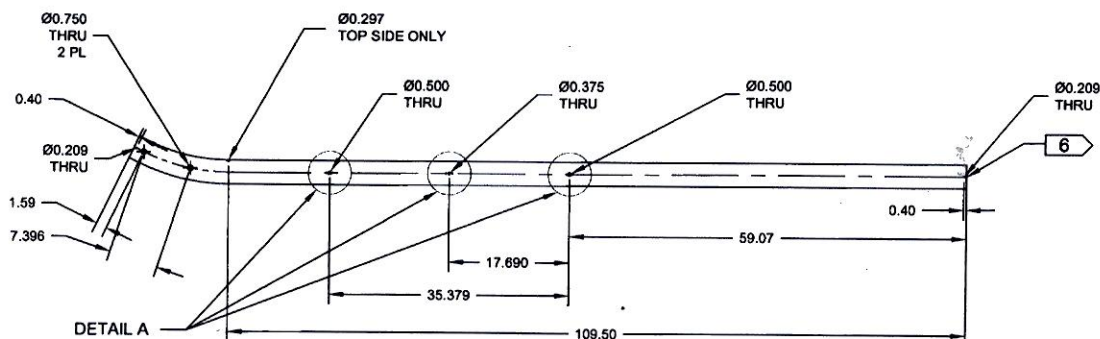
Qty	Part Number	Description
X	D3507-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2965	CAP
1	D2965-3	CAP
4	D3492-041	PLUG ASSEMBLY
4	D3492-043	PLUG ASSEMBLY
2	D3492-047	PLUG ASSEMBLY
2	D3504-1	CROSS BOLT SPACER
1	D3504-3	CROSS BOLT SPACER
2	D3504-5	CROSS BOLT SPACER
1	D3505-1	WEB
4	D3506-1	DOUBLER
2	D3506-3	DOUBLER
1	D4918-1	WEARPLATE
1	D4918-3	WEARPLATE
1	D4918-5	WEARPLATE
1	D4918-047	WEARPLATE
38	AELS-1032-130	INSERT
1	AELS-1032-225	INSERT
31	AN3C4A	BOLT
2	AN3C5A	BOLT
2	AN526C1032-10	SCREW
33	AN960C10L	WASHER
12	MS20601AD4W3	RIVET

GENERAL NOTES:

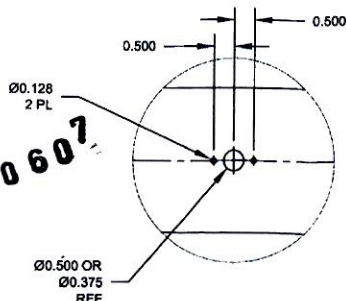
- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3505-1 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.
OPTIONAL: POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
BLACK ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTERLINE PER DART QSI 005 4.4 (OPTIONAL)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) DIMENSIONS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART B/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON I.D. OF TUBE
- 7) WEIGHT: 24.1 LB (FROM IIN-D135-751)
- 8) WELDING TO BE DONE PER DART QSI 004
- 9) INSERT D3505-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING
- 10) USE DART DRILL TEMPLATE DT8868 TO LOCATE AND DRILL Ø0.297 HOLES (38 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION C-C (38 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291
- 11) DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS



D3507-1 BENDING/CUTTING DETAIL



D3507-1 DRILLING DETAIL



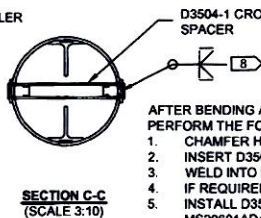
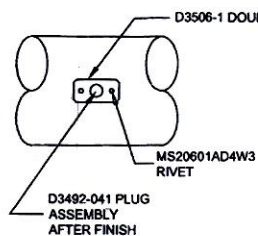
DETAIL A
TYP, 6 PL
SCALE 3:10

D	REMOVE D3558-X GASKETS, D4918-X WAS D3508-X REVISE FINISH TO ADD PAINT AS THE PREFERRED FINISH. REVISED NOTES	DW	13.08.30
C	ADD D3504-5, FOR SKID GEAR DEFLECTOR; CHANGE FWD CAP BOLT TO AN526C1032-10 SCREW	DC	07.09.19
B	ADD GASKET, CHANGE HARDWARE MAT'L	PH	08.11.01
A	NEW ISSUE	PH	06.04.21
REV.	DESCRIPTION	BY	DATE
DESIGN	DW	DART AEROSPACE USA, INC KENT, WA	
DRAWN	DW		
CHECKED	JP		
MFG. APPR.	JP		
APPROVED	JP		
DE APPR.	JP	REV. D SHEET 1 OF 2	
DATE	13.08.30	TITLE EC 135 SKIDTUBE	
		SCALE NTS	

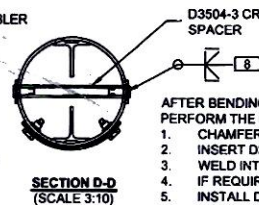
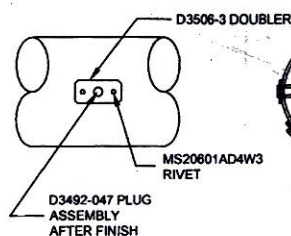
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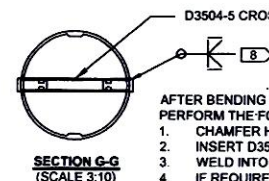
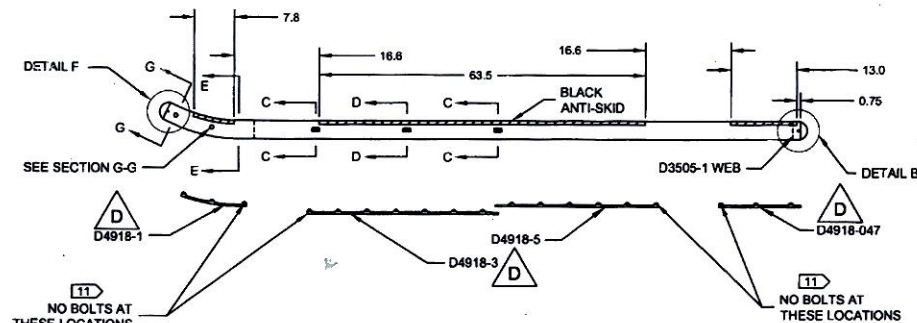
RELEASE
2013-12-10



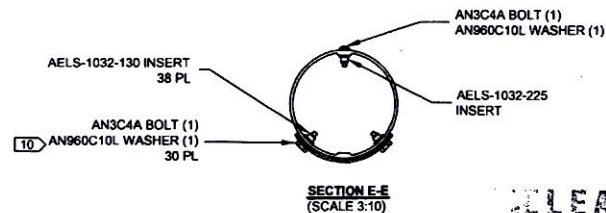
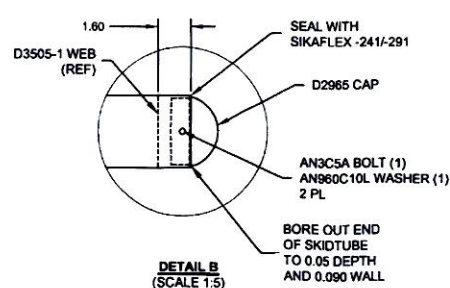
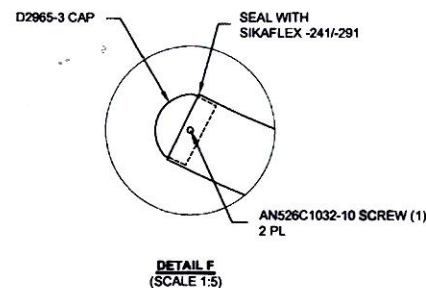
- AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.500 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3504-1 CROSS BOLT SPACER 2 PL
 3. WELD INTO PLACE AND GRIND FLUSH
 4. IF REQUIRED, PASS Ø0.404 (7" DRILL) THRU HOLE
 5. INSTALL D3506-1 DOUBLER 4 PL USING MS20601AD4W3 RIVET 8 PL
 6. AFTER FINISH, INSTALL D3492-041 PLUG ASSEMBLY 4 PL



- AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3504-3 CROSS BOLT SPACER 1 PL
 3. WELD INTO PLACE AND GRIND FLUSH
 4. IF REQUIRED, PASS Ø0.277 (J" DRILL) THRU HOLE
 5. INSTALL D3506-3 DOUBLER 2 PL USING MS20601AD4W3 RIVET 4 PL
 6. AFTER FINISH, INSTALL D3492-047 PLUG ASSEMBLY 2 PL



- AFTER BENDING AND DRILLING
PERFORM THE FOLLOWING FOR Ø0.750 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3504-5 CROSS BOLT SPACER 2 PL
 3. WELD INTO PLACE AND GRIND FLUSH
 4. IF REQUIRED, PASS Ø0.584 (19/32 DRILL) THRU HOLE
 5. AFTER FINISH, INSTALL D3492-043 PLUG ASSEMBLY 4 PL



DESIGN	DW	DART AEROSPACE USA, INC	
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CHECKED	GP	DRAWING NO.	REV. D
MFG. APPR.		D3507	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		EC 135 SKIDTUBE	NTS
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RELEASED
2013-12-10

162471

Work Order ID 162471

Tuesday, June 06, 2017 4:57:34 PM

Accept

N9000040100

Setup Start *NS1*

Stop *NS2*

Item ID: D135-751-011

Revision ID:

Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 5/24/2017 Start Qty: 1.00 *1*

Required Date: 6/5/2017 Req'd Qty: 1.00 *1*

Reference:

Cust Item ID:
Customer:

Run Start *NR1*

Stop *NR2*

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Tool ID

Tool #

Plan Code

Accept Qty

Reject Qty

Reject Number

Insp. Stamp

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw Nbr

Revision Nbr

D3507

Rev D

DS1 9661

A

0.00

100

Document Control

DOCUMENT CONTROL

0.10

1000

DC

Doc.Control -USB or Paperwork

Memo

Photocopy bluefile & type labels per PPP D135-751-011

CHG002

+ Red Decal

by Assurance) approved QA/NCRWO Rev 1
past Due
Manufacturing